DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: BADGER POND	Lake Area (ha): 4.73
Town: BELMONT	Maximum depth (m): 3.3
County: Belknap	Mean depth (m): 1.5
River Basin: Merrimack	Volume (m ³): 70500
Latitude: 43°27'06" N	Relative depth: 1.4
Longitude: 71°28'01" W	Shore configuration: 2.46
Elevation (ft): 570	Areal water load (m/yr): 378.0
Shore length (m): 1900	Flushing rate (yr^{-1}) : 254.0
Watershed area (ha): 3910.9	P retention coeff.: 0.02
% watershed ponded: 1.2	Lake type: artificial

BIOLOGICAL:		12 January 1993	23 July 1992
DOM. PHYTOPLANKTON (% TOTAL)	#1	SYNEDRA 75%	MALLOMONAS 25%
	#2		CERATIUM 20%
	#3		DINOBRYON 20%
PHYTOPLANKTON ABUNDANCE (cells/m	nL)		1285
CHLOROPHYLL-A (µg/L)			14.10
DOM. ZOOPLANKTON (% TOTAL)	#1	SYNCHAETA 94%	SYNCHAETA 29%
	#2		NAUPLIUS LARVA 19%
	#3		POLYARTHRA 16%
ROTIFERS/LITER		100	937
MICROCRUSTACEA/LITER		<1	294
ZOOPLANKTON ABUNDANCE (#/L)		100	1406
VASCULAR PLANT ABUNDANCE	•		Abundant
SECCHI DISK TRANSPARENCY (m)			1.5
BOTTOM DISSOLVED OXYGEN (mg/L)		14.5	0.2
BACTERIA (E. coli, #/100 ml)	#1		4
	#2		1
	#3	, , , , , , , , , , , , , , , , , , , ,	

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 1.8
Hypolimnion volume (m³): None

Anoxic volume (m³) : 2900

CHEMICAL:	Lake: BADGER POND Town: BELMONT				
	12 January 1993		23 J		
DEPTH (m)	1.5		1.0		2.0
pH (units)	6.5		6.8	<u> </u>	6.6
A.N.C. (Alkalinity)	5.9		10.1		10.2
NITRATE NITROGEN	0.15		< 0.02		0.04
TOTAL KJELDAHL NITROGEN	0.18				***
TOTAL PHOSPHORUS	0.012		0.027		0.028
CONDUCTIVITY (µmhos/cm)	76.5		69.2		69.2
APPARENT COLOR (cpu)	24		100		120
MAGNESIUM			1.13		
CALCIUM			3.7		
SODIUM			7.3		
POTASSIUM			0.83		
CHLORIDE	13		12		12
SULFATE	7		3		3
TN : TP	28				
CALCITE SATURATION INDEX			2.9		

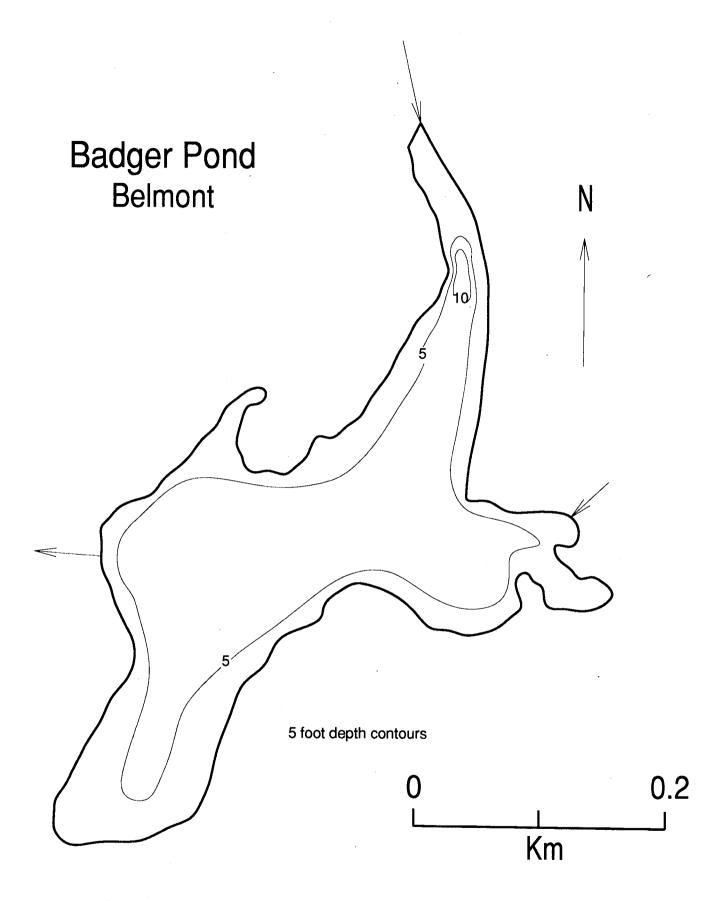
All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1992

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	4	5	3	12	Eutro.

COMMENTS:

- 1. No access; canoe was portaged across private land.
- 2. Cows were observed near the pond.
- 3. Beaver lodge was present.
- 4. Dominant genera of wholewater phytoplankton were Microcystis (30%), Cryptomonas (25%) and Chroomonas (25%).



FIELD DATA SHEET

LAKE: BADGER POND

DATE: 07/23/92

TOWN: BELMONT

WEATHER: RAIN

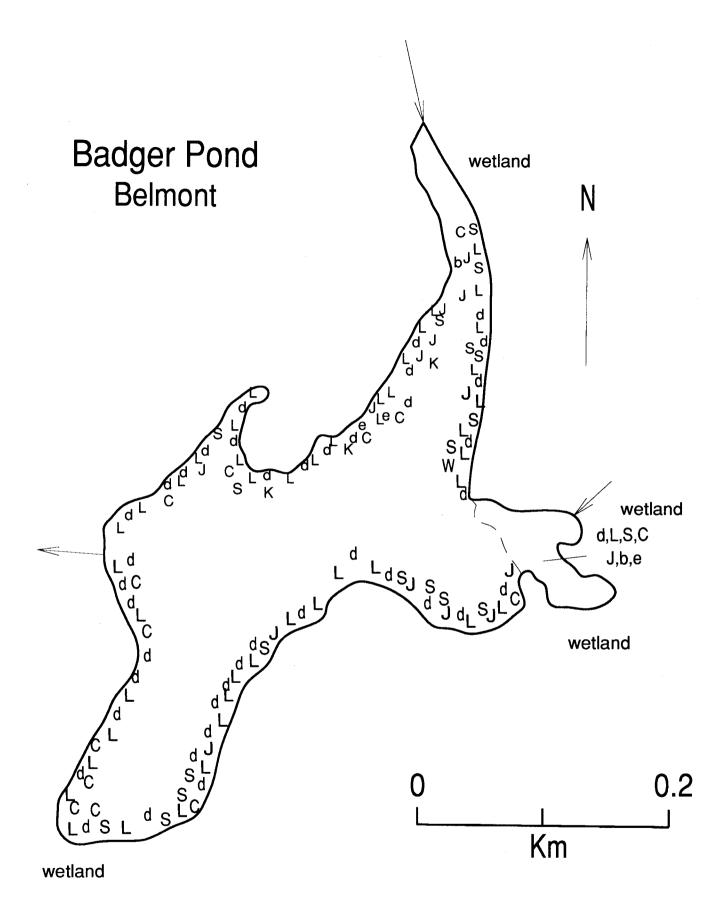
DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	20.8	8.1	89 %
1.0	20.0	7.2	79 %
2.0	17.3	2.7	28 %
2.5	16.5	0.2	2 %
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SECCHI DISK (m): 1.5 COMMENTS:

BOTTOM DEPTH (m): 2.7

TIME: 1130

*Dissolved oxygen values are in mg/L



AQUATIC PLANT SURVEY

LAK	E: BADGER POND	TOWN: BELMONT	DATE: 07/23/92
Key PLANT		NAME	A DVINIDA WAY
ney	GENERIC	COMMON	ABUNDANCE
d	Dulichium arundinaceum	Three-way sedge	Abundant
L	Lysimachia terrestris	Swampcandle	Abundant
S	Sparganium	Bur reed	Common
С	Cyperaceae	non-flowering sedge	Scat/Common
J	Juncus	Rush	Common
b	Scirpus	Bulrush	Scattered
е	Eleocharis	Spike rush	Sparse
K		Unknown plant	Scattered
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OVERALL ABUNDANCE: Abundant

GENERAL OBSERVATIONS:

- 1. Northern, southern and eastern ends of the pond were surrounded by wetlands.
- 2. The abundant swampcandle was in bloom; very pretty.
- 3. The unknown plant looked like a submerged swampcandle but it had no flowers.